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SOME THOUGHTS ON PRACTICAL POLITICS FOR THE FARMER

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PRESUMABLY the farmer has much the same interest in practical politics that persons in other professions or lines of business have. There are certain commonplace facts and principles, however, which so many of us overlook that it is worth while for us all to call them into mind occasionally in the interests both of ourselves and of the state.

It is right and wise for each individual and for each business class in the community to consider how his interests and the interests of his class will be affected by the actions and policies put forward by the different political parties. We should, however, act for the welfare of the community, and study our own interests primarily for the high purpose of knowing the interests of society as a whole. The farmer, then, should consider his own interests and those of the farmers as a class, in order to see and understand the interests of the entire country. If his interests are opposed to those of the manufacturers for instance, as may possibly be the case, before he takes action, he should consider whether the advantages to be derived by the farmers from a certain policy, will be more than offset by the damage to the other members of the community. If so, he should not favor the policy; otherwise he should. Generally speaking, of course, in each community and in each class the interests of the local majority, the interests of the local community

as a whole, will be those to be favored. But that is not necessarily the case, and each individual should try to take the broader view, and consider the welfare of the entire country.

Most of us misjudge the relative importance to us as individuals of national issues as compared with local issues. In most matters, the local issue is of greater importance. We properly talk patriotically about our liberties, thinking of our independence of foreign countries; but our personal liberties are much more likely to be invaded by a troublesome, selfish neighbor or a thieving criminal, than by Germany or Great Britain. The efficiency of our local constable is likely to save us more money than the efficiency of our central government.

We are greatly interested, and properly so, in the personality of our candidate for president. But if we have children of school age and are interested in the intellectual welfare of the community, our happiness in the course of our daily lives is much more dependent upon the personality of the next school teacher in our district. If Mr. Parker had been elected president two years ago, the average farmer in the state of New York, if he had stopped his ears and not read the newspapers, would probably not have discovered within a year, from any change in his condition or prosperity, whether Mr. Parker or Mr. Roosevelt were president. The differ-

ence between a well-trained, refined, sensible young woman as school teacher and a poorly-trained, crude girl, not above the capacity of her best pupils, would be felt within a week in its effect upon the children and upon the social life of the community. And to the observing, thoughtful mind, the difference would represent much more than the five or ten dollars a month which might be saved by the appointment of the latter.

It is very important to the community as a whole that the railroads do not give rebates unfairly to the great corporations, and that they do not charge extortionate rates to the small buyer and dealer in the country districts. But ninety-nine farmers out of a hundred lose far more, in the added cost of hauling their crops to market and their supplies from market, thru the poor roads, than thru the extortions of the railroads. Attempt, each for yourself, to figure out the added cost of the extra time of men and teams caused by the poor roads, as compared with what the cost would be over good macadamized roads, counting the time gained and the added loads at a fair market rate per day for men and teams, and see how much the expense is per year. Then figure out on the other side of the question the number of bushels of grain or other marketed crops of whatever nature that you have sold, with the amount per ton that you have lost thru the extortions of the railroads, (possibly a fraction of a cent per bushel, possibly more), and compare the results.

Some years ago, one of the great farmers' organizations threatened to boycott the sugar trust on account of its extortionate prices. I quite agree that some actions of the sugar trust are indefensible; but the most careful calculation will show that the sugar trust has only at the rarest intervals added as much as one cent a pound to the price of sugar as compared with the competitive price, while during the period of its greatest success and most complete mo-

napoly, the average increase per pound above the competitive rate was probably not far from one-half cent. Let each of you calculate how much you have lost per year from the action of the sugar trust, figuring the number of pounds of sugar consumed, and adding one cent per pound, as an outside figure, and see how trivial this loss is as compared with your loss thru poor roads, or even from the noxious weeds that have probably been scattered thru your grain fields from uncut weeds on the roadside, which your local authorities should have looked after. Let us condemn unsparingly the extortions and injustices of trusts and railroads; but let us be practical and save our dollars in local matters too.

Even state policies touch us ordinarily much more closely than do national policies. It is the state government that is stamping out tuberculosis among our herds of cattle. It is the state investigations of the diseases of hogs and of the various pests that destroy our grape-vines and our fruit trees, that save us the largest sums, altho the work of the national government in these same directions can in no wise be overlooked. But if we consider the way in which our state government touches our daily lives in determining the conditions under which we must make all our contracts, in the various laws which regulate marriage and home-life, in making the most direct provisions for our schools and colleges, in adjusting claims and establishing courts for the protection of the citizens, in making and enforcing the sanitary laws in the cities and in supervising the administration of the sanitary laws in the different localities, we shall see that, in spite of the daily visit of the postman, the state government affects our happiness ten times as much as it is possible for the national government to do. And yet I do not wish to underestimate the importance of the study of national issues, and I am myself very much inclined to "spell nation with a big N."

National legislation does touch the farmer, but here again deliberate effort has been made many times to deceive the farmer. Legislation against trusts and monopolies and more active administration of the laws against the extortions of the railroads have usually been in the farmer's favor, and he should see to it that this good work is continued. But, as we have seen, this is of relatively small importance. The same thing may be said in most cases as regards the tariff. I do not wish in this connection to discuss at all the general question of a protective tariff; but there has at times apparently been an effort to make the farmers believe that they were greatly benefited by a tariff on wheat when we were exporting wheat by the millions of bushels, and when the price to the farmer was fixed absolutely without any reference to this tariff. The manufacturer who finds competition from foreigners shut out or lessened by the protective tariff on imported goods which he sells, receives a benefit. The tariff on goods that are largely exported, whether raw materials or manufactured articles, is, as a rule, of little or no benefit to the producer of these goods. Generally speaking, the farmer has received more benefit from the duty on hens' eggs than from that on wheat, for the price of wheat has not been increased at all by the duty, while the price of eggs in certain sections of the country has quite possibly been increased thereby. The farmer will do well, if he wishes to protect his own interests, to study the conditions under which the tariff may really benefit him, and those under which it is merely a schedule which is given him to satisfy his demands, rather than to benefit his pocket.

And yet there is another point of view. While I think the farmer, like the rest of us, has often greatly underestimated the importance of his local government, and has taken far too little interest in seeing and studying the problems that lie nearest to him, he should likewise take an even greater interest than he has taken in

the past in national questions. I have indicated that the question of duties and tariff should be studied discriminatingly. The same is true of the question of money, because this is so intimately connected with business of all kinds that a good monetary system affects the prosperity of the country as a whole, and the prosperity of the farmer in connection therewith. And yet this is a question which not merely the farmer, but apparently few of any class, have well understood. In our special money campaigns, the fallacious arguments of the extreme partisans on the one side could be equalled only by the follies of the extremists on the other. A discriminating judgment is always extremely difficult in a question so complicated, but it is of prime importance that at least the fundamental principles should be understood by many. Another advantage of the study of national questions is that, although they are more difficult, they give a man a broader outlook on life, and have a tendency toward making him recognize more clearly his relationship with others than does the study of local questions; and this is a matter of far-reaching import. We are all of us too narrow-minded, too selfish, too closely shut in by our own little world, and the study of questions which lead out beyond our families, our neighborhoods, even our state, tends to give us broader sympathies and juster views.

And, too, our interest in political questions should not be limited even by our nation. In these days of our rural free delivery, when every farmer can have his daily paper from the metropolis, and when, thru his connection with the cities by trolley lines and telephones, he is brought into close touch with the larger affairs of city and state, he should not let his interest be limited by anything less wide-reaching than the most important international problems. The farmer must do his part toward selecting his representative in Congress as well as in the school district. He has an interest in the President as well as

in the sheriff. He will not merely live a life richer in interest and more helpful in the relations into which it brings him, if he keeps himself well informed on the broad questions of international policy, but this wider range of vision, and the added thirst for further knowledge which normally goes therewith, will give him also

a much cooler judgment and hence a stronger influence in local affairs, and will make him much better able to do his duties at home, in his village and town. I would much rather have for my next-door neighbor a "citizen of the world," than a man whose outlook on life is limited by his barn-yard fence.

SOIL DIFFERENCES

J. A. Bonsteel

Bureau of Soils. U. S. Department of Agriculture

IN 1899 the Bureau of Soils of the United States Department of Agriculture began a soil survey of different portions of the United States. Since that time 251 different surveys have been made, distributed over 43 states and 4 territories, and comprising a study of the utmost variety of American soils existing under the most divergent conditions of climate and of agricultural management.

This work is based upon the fact that there are easily recognized differences among soils which have a vital effect upon the character of the crops which can be grown successfully. In fact many of the differences found to exist are so well known that every man who has watched the furrows turn from the plow or who has planned to place some special crop upon exactly the right piece of land is fully aware of them. He usually has a good working knowledge of what they mean.

Probably the most obvious of all soil differences is that in the texture of the soil. Even in such a small area as an ordinary farm there will be some clay land which is stiff, heavy, plastic, and very retentive of moisture. It takes in water very slowly and holds on to water once absorbed in the most tenacious manner. Frequently upon the same farm there will be found an area of sandy and gravelly land which allows rain water or melted snow to sink into it rapidly

and as rapidly drains its moisture away. The clay warms up slowly in the spring, can only be worked when some time has elapsed after a thorough wetting and is generally injured by plowing or cultivating when too wet. The sandy soil is exactly the opposite in all of these respects. As a result every practical man can see the necessity for producing different crops upon the two soils and the desirability of handling them at different times and in different ways.

These are only two extreme cases of differences in soil texture accompanied by a marked difference in crop adaptation. The soil survey recognizes when they are sufficiently marked to possess an obvious influence upon the kind of crop to be raised or upon the methods to be used in its production.

A second great difference among soils is not so widely recognized nor so well understood. Two clay soils may be almost equally fine textured and still behave quite differently under cultivation. One may be dense, compact, almost uniform in its waxy consistency while another is loose, granular, and porous, easily kept in good tilth, adequately drained, and well aired. Such a difference among soils is called a difference in structure. It is one of the chief differences, in humid regions, which distinguish the surface soil from the subsoil. It is to produce favorable structure in the soil that most of the operations of

soil management are conducted. The difference between a baked, clodded field and the mellow tilth of a well prepared seed bed, "mellow as an ash heap," very frequently makes the difference between crop failure and a bumper crop. The difference is one of structure, the texture remains the same. It is very rarely that any complaint is heard of the infertility or unprofitableness of a field whose soil and subsoil are well granulated, of good structure, and many a field passes from the ranks of so-called "worn out soils" when it is properly handled to produce this mellow tilth.

Another very obvious difference among soils consists in the amount, the character, and the distribution of the organic portion of the soil. Every farmer east of the 100th meridian and many a farmer west of it will be pleased in proportion to the amount of dark-brown or black surface soil exposed in his newly plowed fields. In general, organic matter in this condition is called humus altho the word is poorly defined and the properties of the material itself are but little understood. It is not exactly equivalent to organic matter, for some soils show a large amount of organic material in them, though they do not exhibit the characteristic black or red-brown color of the humus soils. The material in such soils is more probably in the condition of the red or yellow powder in a partly rotted stump, a mass of disappearing organic tissue, literally in the process of being burned out.

It is the aim of every progressive farmer not only to get a considerable proportion of organic matter into his soils in the form of stable manures or of green crops plowed under but to get his soils into such condition that this material will turn to the humus condition and will not be burned out and dissipated without having produced the desired effects in crop production. How this is to be accomplished and why some soils will naturally produce humus from roots, stubble, manure and green manures are questions still subject to debate,

questions whose solution concerns every farmer in the humid region. *

The distribution of the humus form of organic matter in different soils varies markedly even in single fields. There are broad areas of prairie lands in the central states which are dark-brown or black from the accumulations of humus. Their subsoils are yellow, gray, or blue. The depth of soil with its humus content varies from one to two feet. It is sometimes three feet deep. Such a soil differs very materially from certain other soils where the presence of the dark humus is only evident to a depth of six inches or less. The presence of a good depth of soil of this character is always associated with high producing capacity for corn, small grains and most grasses. The aim of successful farmers is to produce a considerable depth of such surface soil. To this end manures, green crops and deep plowing are employed.

Probably soils differ to a greater extent in the character of their natural relationships to drainage than in any other respects. The slope of the surface, the texture of the soil, its structure, its humus content, the depth to which a mellow surface soil has been established by thorough tillage, all affect the absorption, retention, and circulation of soil moisture.

In all agricultural operations the control of soil moisture is one of the chief objects of the work. The soil moisture controls drought or saturation conditions. It dissolves and distributes the materials of the soil which serve to nourish plants. In this process it alters previous chemical compounds so that new compounds are formed. This arises from the fact that rarely can two or more substances be dissolved in the same mass of water without producing intricate chemical adjustments between the elementary substances concerned. In the same way, when any fertilizing material, organic or mineral, is added to a soil the soil moisture dissolves the material to a greater or less extent and alters the conditions which formerly existed

in the soil. Part of the fertilizer may go to replace material formerly in the soil. Part may be absorbed and held on the solid soil grains. Part may enter into chemical changes so intricate that no means are now known for following the character of the changes nor for determining their final effect. Especially should it be held in mind that on different soils the effects are different at any one time and, at different times, the changes and their effects may be profoundly different on the same soil.

All of these soil differences affect plant growth in two ways which directly concern the individual farmer. They control the kind of crop he may produce to best advantage under fixed and reasonably constant conditions of

soil and climate. From year to year the changes in these characteristic soil differences influence, with climate, the amount of any crop which may be produced. The first problem is that of crop adaptation. The second is that of soil productivity. The two constitute a field of investigation in which much must be observed, arranged, classified and digested before the two problems can be solved for the benefit of American Farmers.

Both problems are being studied at the present time by an increasing number of investigators at the Agricultural Colleges and Experiment Stations and both problems are recognized as fundamental research work by the Bureau of Soils of the United States Department of Agriculture.

MARKETING CATTLE AS SEEN BY THE COMMISSION MERCHANT.

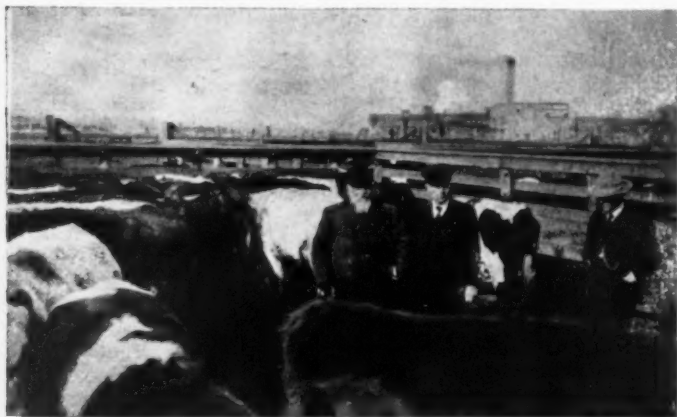
By Matt W. Baldwin, Sioux City, Iowa

IT goes without saying that there can be no hard and fast rules governing the marketing of live stock, unless we give heed to that oft quoted saying among stock yards habitués, of "buy cheap, sell high."

Nor can we quote the cost of raising cattle without giving heed to the localization of the breeding herd; and the

calf which can be sold from western free-lands at \$12 and show a good profit, might show a positive loss if sold at \$15 when raised on the valuable lands of Iowa and Illinois.

In framing an article of this kind it becomes imperative that some standard of value be recognized. For instance, taking the steer as our basis



NEIGHBOR JONES BUYS

for argument, we must take it for granted that it is a well bred steer, sired by a registered bull and out of a grade cow, both sire and dam being of the recognized beef breeds; we must allow that as a fall calf he will weigh 500 pounds and worth say \$15.00; a year later he will be a long yearling and must weigh 800 pounds and worth in the neighborhood of \$28.00; still a year later he will be a two year old, must weigh 1,100 pounds and worth about \$38.00. These values and weights are computed on a free-land herd basis, and will be found to come quite close to the general average; this steer knows nothing of grain; is loose limbed and growthy; is owned by a man who provides hay and shelter during winter. If the owner of this steer could put about 50 bushels of corn into him, he would probably go to market weighing about 1,400 pounds and netting the owner \$70.00, more or less.

The above example would be the ideal method of marketing cattle; a minimum of labor and expense would make a return of the maximum of value, of which probably \$35, would be clear profit.

We will market our steer for the first time at 15 months; he finds ready sale and nets his owner about \$28. Freights, yardage, feed and commission charges bring the cost to its new proprietor of about \$31, this is supposed to represent the value laid down at its new home.

We feel some sort of inquisitiveness concerning the future of this bunch of yearlings, for they have been bought by a well-to-do farmer; we naturally suppose that he will retain ownership until they reach that place where every steer fulfils its final obligation; but no, these steers will go back to market again next spring; the new owner simply uses them as scavengers. They clean up the corn-stalks; transpose his straw into valuable fertilizer, thereby leaving the fields ready for the plow, and saving an immense amount of labor in rak-

ing, cleaning up and burning. These young cattle handle easily, hold their weight with but little grain and sell again next spring at sufficient advance in price to insure no loss.

The third owner of our steer can be one of several parties; but usually he is the owner or lessee of wild lands. In order to avoid putting another year into the history of our steer, we must manage to keep him within reasonable distance of the market, for if we take him too far he has to go thru the process of acclimating, thereby losing one season's growth. As it is we find that the railroads and market intermediaries add all of \$3.00 to his cost to his third owner, so that waiving possible profit and value of interest



OLE

to the second owner, he stands to cost the third owner about \$34, when turned loose on the wild pasture.

Under favorable conditions, our steer thrives, and at twenty-seven months of age is exactly right for the feed yard; should, however, his owner decide to winter him, and then give

another season on grass, we will find a beef steer weighing about 1,400 pounds and worth at least \$56, delivered at the nearest railroad station; we, however, will take him back to the market as a two-year-old and sell him to a feeder at 4 cents per pound, thereby netting the third owner \$38.50.

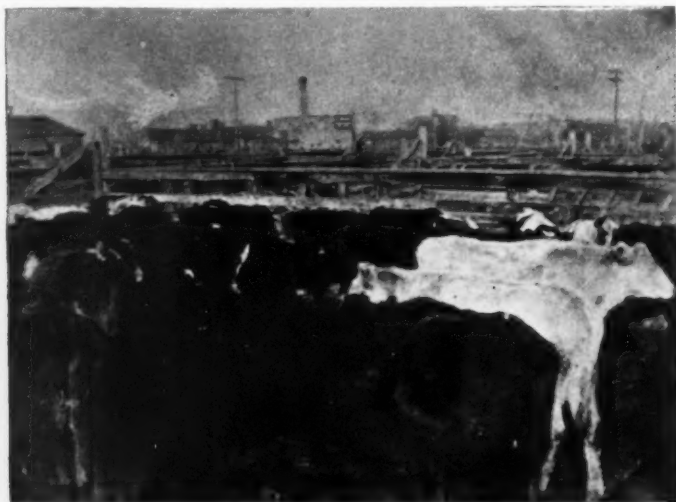
By the time our steer finds himself in the feed lot, he has cost his final owner about \$45.

Exception will be taken by many readers, to my allowing our steer to weigh as much after being railroaded all over the country, but the point I

corn, and expresses the desire that "the other fellow make some money off those steers, I've made enough."

The farmer who feeds the steer tells us that there is no such thing as good natural pasture in the corn lands; that artificial pasture is too expensive; that meadow land nets a better profit when harvested as hay than when used as cattle pasture; he is willing to pay the herdsman a clean profit, rather than try to raise cattle on lands worth in the neighborhood of \$100 per acre.

This phase of the subject is altogether foreign to that of breeders who maintain fancy herds on high priced



SOME THAT OLE BOUGHT.

am trying to establish, is the probable cost of handling a steer during the two growing years, thru the process of marketing three times, which is not at all exceptional. I have known cattle to be marketed five times before reaching the feed lot. Supposing that it has been marketed three times it has cost \$12.50 in transportation, intermediary charges, and shrinkage in weight.

The economist would insist that the steer should be fed where it was raised; but when we consider that point we find that the herdsman lives remote from the market; raises no

lands, and must not be classified with it. The day of free range is waning, some insist that it has gone. This means a new era in cattle raising; it means improved pasturage and closed herds.

Commission men recognize many different classes of cattle feeders; some are good, some bad, some indifferent; some feed cows, some heifers, some bulls or stags, some feed yearling steers for baby beef, some feed twos, some threes; some can only feed good cattle; others make a success feeding common stock.

Were a million books printed and

circulated among those interested, it is doubtful whether the percentage of failure in cattle feeding would be lessened. It is only human to ignore precept, trusting to experience as guide; but it is not unusual for one's first experience in cattle feeding to prove so disastrous, that the experience can never be of any self value. Under such circumstances the cattle feeder will excuse himself by explaining how he "got beat" when buying his feeding stock.

Those conversant with methods of business at all public live stock markets will call to mind that adage: "Buy cheap, sell high."

But buying cheap entails more than passing thought. I have seen common, rough, big framed growthy steers sell very cheap and I have seen them come back to market and sell very close to high quality cattle; also noted that they fed and put on weight as economically as high grade stock; also noted that they made their feeder much more money than some high grade cattle.

I'm a firm believer in breeding; but I would rather advise that common cattle be bought cheaply than high grade stock too high.

The beef from a well fattened common steer, bears a striking likeness to that of the well fattened high grade; there may be a difference to the expert, but the layman is willing to remain ignorant.

When so-called common stock is selling cheap, don't pay long prices for high grades. Any stock bought right will sell satisfactorily. When it comes to selling fat cattle it is well to remember that there is a period almost every season when fat steers sell at a positive loss; the professional feeders recognize this and seldom get caught. Maybe I can give better expression to the above thought by serving it up in parable form.

Ole Swanson is a raw farmer—possibly not so very raw—but as fall approaches he notes every evidence of a bountiful corn crop; eighty acres that

will go about sixty bushels. Ole is a tenant, but the sale of this crop will put him in position to acquire title to a piece of land he has had his eye on.

Neighbor Jones is rich, was a pioneer in that neck of the woods; owns fine horses, hogs, cattle and a fine flock of Plymouth Rock chickens. Neighbor Jones' daughter married a banker and does her visiting in an auto. Neighbor Jones always feeds cattle, and Ole *knows* that Jones got rich feeding cattle.

Now Ole has no bank account but he has heard that any one who has the feed can buy cattle *on time*.



A DEALER.

Ole has a sneaking idea that he ought to invite Neighbor Jones to make the trip to the nearby market to superintend the proposed investment; but Ole has some notions on being independent, and our next picture catches him making his debut in the cattle division of a public market.

Did Ole only know it he could buy his cattle *on time* just as cheaply as tho he paid cash, excepting for the commission of 50c per head charged by the commission man, who makes this charge for his service of buying the cattle and floating the paper. Any

prospective feeder can make his purchase thru a commission house without paying any premium other than the 50 cents per head, regardless of whether he pays in cash or by note. Ole does not know this, or if he does, does not believe it.

Our friend had some doubts as to his credit being good for the purchase of fifty steers; but he had a distinct notion that he intended the cattle to be just about such stock as Neighbor Jones had in his feed lot. Ole's credit is good, and before the day is over finds himself on the train conveying *one hundred* steers to his home railroad station; all he had given in exchange was his name scrawled on a note and mortgage. True it is, that the steers do not look just as he had intended they should; there is quite a wide range in colors, and they are quite uneven in size; but they must be of good quality, for according to the price he paid when compared with market quotations, he has acquired ownership at pretty close to top prices. Now Ole knew when he started out that fifty head would handle very nicely; for he did not go into this deal utterly ignorant; he had a passing knowledge that 4,000 bushels of corn would feed 50 steers five or six months, and that his fifty shoats would follow the cattle without needing any other feed and would be "top-hogs" when the cattle were fat.

But dealers in cattle at public markets are as a rule clever business men; they offer their stock on the open market; they aim to sell as *many* cattle as they can as *high* as they can; this is the law of barter; they do not make Ole drunk, or sandbag him; he has fifty dealers to buy from, if he is a clever trader he is at no disadvantage, but when he finds that he is so wide and favorably known, he swells up some, and wishes he had donned a boiled shirt before meeting so many friends. Everybody knows him within ten minutes of reaching the yards, he is a neighbor to Jones, and as good a man; he finds that he cannot even pay for his own dinner, and wonders

how it is that Neighbor Jones never mentioned or hinted at his very well recognized qualities as a judge of cattle. He has been mounted on the dealer's single footer, and thus mounted, has assisted to sort the cattle of his purchase, yes, he would take the hundred, the big cattle could be shipped in ninety days and the younger stock could be carried a couple of months longer.

Probably many of my readers will say that the dealers did wrong in forcing one hundred head on him whereas he was only fixed to handle fifty.

Conscience has but little say in a cattle trade, and it's more than passing lard as to where the wrong must be placed.

The outcome is a foregone conclusion; by the time Ole's corn is about spent, the cattle are only beginning to show the effects, and this is the time when the market is making mighty reaches to strike bottom. Ole goes to his local banker to borrow money to buy corn, but the banker knows all about cattle and cattle mortgages. In wild hopes of staving off the crash Ole feeds the corn which should have been held to feed his horses, and to pay the rent; but still the market goes lower. He appeals to the dealers who sold him the cattle—money to buy corn—but they have had too much experience in such matters; Ole is not a cattle feeder; but the cattle if sold now will pay the note. Better ship the cattle.

He does.

He arrives on the market on the very day when hundreds of others situated like himself strike it; Ole thinks that all the cattle in the world are here, and after this one day there will be a beef famine.

His cattle looked pretty good in his feed lot, but now they stand drawn up and gaunt; they are not fat, he sees it, and deep down in his heart he recognizes ruin.

They sell of course, there's no other avenue; he is sympathized with and gets his note back, but his corn crop is gone.

The stranger to the live stock busi-

ness will think this parable overdrawn—exaggerated—it isn't.

Neighbor Jones did not market his cattle when Ole did; he knew better; had made better provision.

Market values begin to weaken as soon as the receipts show a heavy percentage of partially fattened cattle; this means that overstocked novices and moving tenants are compelled to sell, and values continue downward

until this class of marketers are sold out; this season generally commences late in February working downward until May; exact dates cannot be fixed, for conditions vary with each year.

The professional feeder needs never sell at a positive loss; he may not strike all the highest places, but when he sells it will be at profit if conditions are anywhere near normal.

THE MANUFACTURE OF CONDENSED MILK VII

By O. F. Hunziker

STAMPING.

EVERY well regulated condenser has some sort of a system of marking the cans, indicating the number of the batch of milk. This is important for future reference. When condensed milk on the market goes wrong and the cans are returned to the factory, the number on the can tells the condenser when that milk was manufactured, and the record in the office shows the conditions under which it was made. In this way defects can usually be traced back to their origin and further, serious trouble can be avoided. A code of letters or figures is used, indicating the name of the factory, date of manufacture and number of batch. Suppose a concern has 3 factories, A., B., C.; X stands for the current year, the letters E, F, G, H, I, J, K, L, M, N, O and P indicate the twelve months of the year respectively and the figures 1, 2, 3 represent the batches of condensed milk made on one day. Example: A can belongs to the 2 batch of the day, made on the 9th of April, 1906 at factory B, the can would be stamped as follows: B. 9., H. X. 2.

The cans are stamped on the bottom (the end that carries the cap), by the sealer. Small, interchangeable rubber letters are most convenient for this purpose. The ink should contain a drier and should be waterproof.

In most factories the stamping is done by hand. It requires little time

and can be done very rapidly. In exceptional cases the stamp is attached either to the filling or sealing machine and the cans are stamped automatically while being filled or sealed.

INSPECTING.

The sealed and stamped cans are placed (with the cap down) in trays holding 24 cans. All the trays of one batch are stacked together. A card, indicating the number and date of the batch and the number of cans in the batch, is attached to the stack and a copy of same is filed in the office. The cans in the trays are placed there with the caps down, in order to detect any "leakers" (cans with defective seals). Before the cans are labeled the trays should be taken down, and the cans turned over and examined for "leakers." Unless the factory is behind in filling orders the cans will have been in stock for at least 24 hours and, if any seals are defective, a little of the condensed milk will have oozed out by that time. Where the sealers are inexperienced, the percentage of "leakers" is usually large. Where the sealing is carefully done, not more than from 1% to 5% of the cans upon inspection, will prove to be "leakers." In order to regulate and improve the work of the sealers and to locate those doing poor work, it is advisable to give each sealer a number and supply them with small tin tags bearing their respective numbers. Each sealer drops one tag into each tray of cans which she seals

and the inspectors record the number of "leakers" with the sealer's number. Thus each sealer is charged up with all the "leakers" she makes.

Where the leaks are small they can usually be soldered over or mended and the cans are placed back into the batch to which they belong. In case of bad "leakers" (very defective seals) attempts at mending generally cause the milk in the can to burn on to the

burned milk appear. Instead of trying to mend such cans, it is preferable to cut them open and pour the contents into the succeeding batch of milk. This inspection of the cans for "leakers," though neglected in many factories, is very important and will save labels and boxes as well as much unnecessary labor in unpacking leaky cases, tearing off the soiled labels, washing the cans and relabeling and repacking them.

LABELING.

The cans are now ready to be labeled. In the early days of the manufacture of condensed milk the labeling was done by hand, which naturally, involved much labor and considerable expense. Today, specially constructed labeling machines are used for this purpose. Figure 11 illustrates the Knapp labeling machine. The efficiency of this machine is such that it would be difficult to find a milk condensing factory, or other canning establishment in which it is not a permanent fixture. This machine can be used with hand power, electric motor or belt power. The principle of these machines is as follows: When the machine is in operation the chutes *a* and *b*, which are hanging down on hinges, are raised so that they are in nearly horizontal position. Their outer ends are supported by the rods *ss*, which are placed vertically under the ends of the chutes. Chute *a* inclines towards the machine; chute *b* slants from the machine. The cans run into the machine over chute *a* by gravity. As they enter the machine they are caught by the endless belt *f*, which pulls them through and sends them out of the machine over chute *b*. First they pass over the paste box *c* which contains a revolving wheel covered with felt. The felt is saturated with paste. Every can comes in contact with the paste wheel. Then they pass over the label box *d*, containing a bunch of labels face down. Each can picks up one label which is automatically rolled around the can as it runs through the machine. The label box *d* has an automatic regulator *e* which feeds the labels as fast as they are

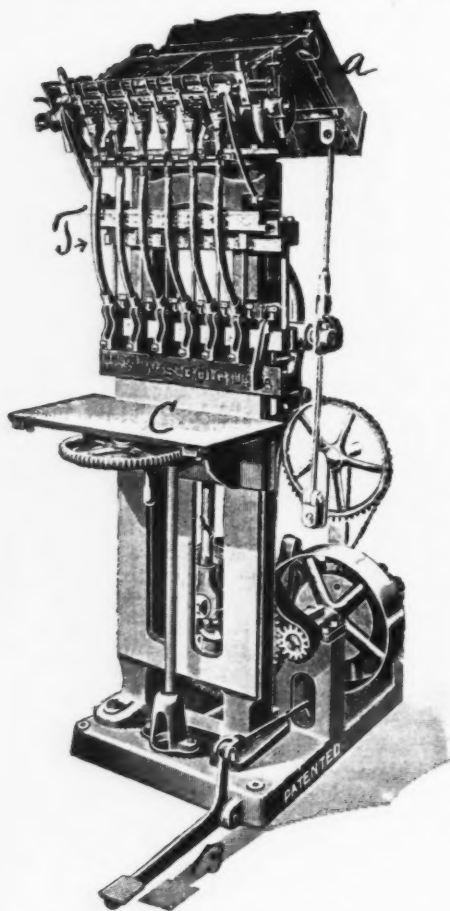


FIG. 13.—BOX MAILING MACHINE.
(Kindness W. S. Bolg Co., Brooklyn, N. Y.)

cap and form a brown crust which spoils the can for the market. When the can is cut open, the contents have a burnt taste and smell and, upon stirring brown or black specks of

being used. When the cans arrive at chute *b* they are labeled and are ready to be removed to cases.

The attractiveness of the package largely depends on the neatness of the label. The use of too thin or of too much paste usually causes the labels to wrinkle on the cans. The paste should have the consistency of heavy dough and the paste wheel in the machine should be so set that it barely touches the passing cans. Sometimes the labels on the cans show stains and spots. This is especially the case with cans that have been in stock for some

puts up but a few brands. Most companies put on the market a great variety of brands, some of their regular customers having private brands of their own. In such cases it is not feasible to label the empty cans. Moreover the labeled cans are in danger of becoming soiled by the subsequent filling. On the whole it is preferable to fill the unlabeled cans and then label them as the orders come in.

PACKING.

The labeled cans are packed in cases holding from 48 to 96 cans according

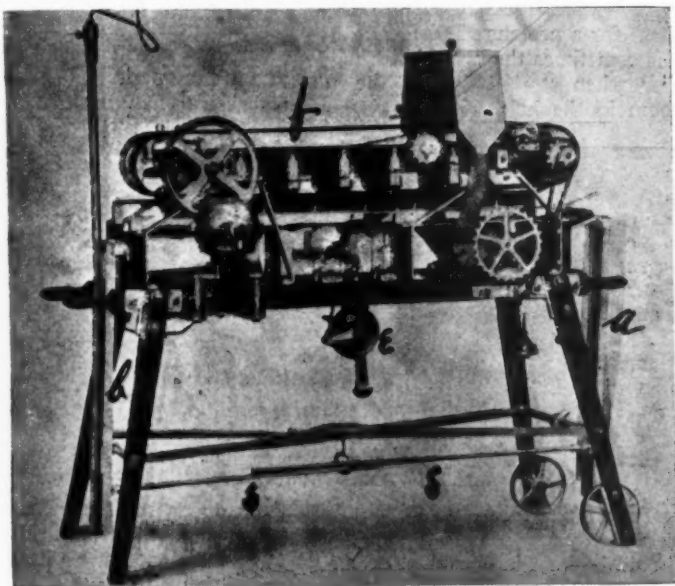


FIG. 11—LABELING MACHINE WITH ELECTRIC MOTOR
(Kindness F. H. Knapp Co., Chicago)

time. This is due either to a poor quality of paper or to sour paste. Where sour paste is used the acid attacks the can and causes it to rust. The rust spots penetrate the label and give the package an unsightly appearance. Troubles of this kind can be avoided where the paste is prepared fresh every day. Paste saved over from the previous day is apt to be sour and should be rejected.

Some concerns label their cans before they are filled. This can be done advantageously only where the factory

to the size of the cans. The sides, bottom and top of the cases should be of material about $\frac{3}{8}$ to $\frac{1}{2}$ inch thick, the ends $\frac{3}{4}$ to $\frac{7}{8}$ inch thick. The cases are bought in the "knock-down" shape and are nailed together in the factory. Six-penny cement-coated wire nails are most suitable for this purpose. The packing may be done by hand or by machinery. Fig. 12 illustrates a packing machine connected with the labeling machine.

The making and nailing up of the

cases is most economically done with the aid of a nailing-machine. (Fig. 13.)

The nailed up boxes are then stencilled on one end with the number of the batch of condensed milk they contain. A box label representing the respective brand is pasted on the other end.

Where milk is exported each can is wrapped in a separate paper and the case is reinforced with a band of strap iron around each end. The sides of the condensed milk cases are usually marked, "Keep in cool, dry place." If condensed milk is exposed to excessive heat for a prolonged period of time, as is sometimes the case in store houses, or when stowed against the boiler room in the hold of steamers,

1. The market may be so flooded with condensed milk that all of it cannot be sold without loss. It is obvious that during the early summer months when the production of crude milk is at its height the condensory experiences a corresponding increase in its milk supply. The output of condensed milk, therefore, is proportionately greater during these months. This increase in the output is universal, hence the supply by far exceeds the demand. There is another factor here which plays an important role. The May and June condensed milk is usually of inferior keeping quality. This fact has taught the manufacturers of sweetened condensed milk that, if they wish to avoid the risk of hav-

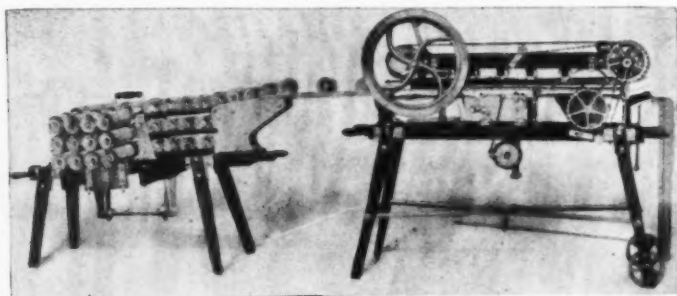


FIG. 12—LABLEER AND BOXER
(Kindness F. H. Knapp Co., Chicago)

it becomes brown and thickens rapidly, taking on a cheesy appearance. Therefore it should be kept in a cool place. As to keeping it in a dry place, that does not refer to the condensed milk proper, the cans being hermetically sealed. Prolonged exposure to dampness, however, will moisten the paste under the labels. The dampened paste gradually sours and causes rust spots to penetrate the labels. Such cans are soon covered with mildew.

STORAGE.

On general principles it is not advisable to lay in any considerable stock of sweetened condensed milk. The stocking up of a reasonable amount of it, however, may be necessary for the following reasons:

ing their goods spoil on their hands they must get rid of all their May and June milk as fast as it is made. This condition augments the rush of sweetened condensed milk on the market and makes competition all the keener. The result is a slump in the market, the price often falling below the cost of manufacture.

2. The manufacturer may be compelled to stock up in summer in order to cover subsequent shortages in his own output and to take care of his trade the year around. The factories of a concern may be located in a territory where the supply of winter milk is so small that he is unable to supply his customers with his output of winter milk alone. Again he may have entered into a contract with his buy-

ers to furnish them with a certain number of carloads of condensed milk each month. In such instances he is under obligation to hold over some of his condensed milk in order to fill his contracts during the winter months.

3. He may do so from the point of view of speculation. The manufacturer, speculating on a shortage of sweetened condensed milk during the coming winter and on a corresponding rise in the price, may deem it profitable to buy all the cheap summer milk he can, store the condensed milk until the supply of the market is at ebbtide, and then sell his stock at a good margin.

If stocking up is unavoidable the storing temperature should be considered. Like other perishable goods, sweetened condensed milk keeps best at a low temperature, as it contains a large amount of cane sugar (about 40%), which acts as a preservative, it is not necessary to expose the condensed milk to refrigerating temperatures. At a temperature of from 50 degrees F. to 60 degrees F. it can be stored very satisfactorily. Underground basements are, therefore, well adapted for this purpose. When the temperature rises above 80 degrees F., the condensed milk gradually becomes dark in color and thickens. Prolonged exposure to a high temperature will cause it to become cheesy in texture

and stale in taste. Abrupt changes in temperature tend to reduce its keeping quality.

DISADVANTAGES OF STORING.

A heavy stock of sweetened condensed milk is a severe drain on the working capital of the concern, involving the cost of the fresh milk, cane sugar, tinplate, boxes, solder, labels, coal and labor.

Generally speaking, sweetened condensed milk, while it may keep for a long time without decaying, does not improve with age, but is best when fresh. Unless the manufacturer has successfully overcome and mastered all of the principal condensed milk troubles and defects, such as the settling of the sugar, the thickening and growing solid of the milk, the blowing or swelling of the cans, and unless his experience justifies him in being reasonably sure that his goods will stand the trials of storing, he will do well not to manufacture more than he can immediately dispose of. Even at best the condensed milk will be from three to six months old before it is all consumed. Its travel from the warehouse of the broker to the pantry of the consumer is slow and cannot be hastened; and if the milk is at all subject to deterioration, the sooner it is consumed the better.

To Be Continued.



A PLEA FOR GREEN LAWNS. WESTERN NEW YORK VS.*By G. D. Cooper, '07*

It has been said by a competent authority that to one, passing along the highway, five-sixths of our country homes would not appeal as being home-like. By this is meant that the average farm home, viewed from the outside, would not impress you as a place where you would like to live. Now, it is obviously impossible for every farm home to be so improved that it would appeal to every person, but, it is quite probable that most of them could, with a little more care and thought, be greatly improved. Not that there is any great lack of attention in this direction, but that the efforts being made are, in many instances, misdirected or overdone. Careful observation would show you that there is an increasing tendency to improve the appearance of farmsteads, especially where the tenant is the owner, and that this improvement is due mostly to the influence or energy of the womenfolk.

Now womenfolk who take pride in their houseyards, are apt to be careful housewives. They would not allow the furniture in the house to occupy three-fourths of the floor space but they fill their yard full of peculiarly shaped flower beds and painfully clipped specimen shrubs. They would not allow a speck of dust to lodge in their house but they allow those same flower beds to deteriorate all summer and accumulate trash and litter through lack of the attention which they cannot give.

How much simpler, would it be for the improver of a farmstead to confine herself to plain lawns. Thus the repose of the fields may be drawn up to the house and the labor of caring for the yard reduced considerably. Where the view outward from the house is not pleasing it may be shut off by plantings of easily cared for native shrubs which can also be used to provide a setting for the house.

WESTERN UNITED STATES*By W. H. Alderman, '08*

There are a good many of the small grain farmers of Western New York who are asking themselves in all seriousness "Why is it that I am not making the money that I used to make, or that my father made?" And well may they consider the question seriously for it does seem that their income is falling off. Can it be that they are poorer farmers than their fathers, or that the land is running out? No, that is not the case for, generally speaking, the soil is yielding more per acre than formerly. The trouble is in their kind of farming.

But what does this mean? It means simply this, that Western New York is hopelessly outclassed in the line of general grain farming. It means that the west with its millions of fertile acres can produce wheat for \$.50 a bushel while New York farmers complain of the price at \$.70.

On the other hand, with the exception of California, New York produces more fruit than any other state in the union. In 1899 she produced one-seventh of all the apples in the United States. It is generally conceded that Western New York produces some of the best fruit in the world. Wide awake farmers have begun to appreciate that fact and to realize that while they can no longer compete with the grain magnates of the west, they can raise fruit that will command the highest price in any market of Europe or America. When the farmers as a whole have given up their ineffectual attempts at grain farming and turn their attention to fruit growing on their especially adapted soil, then will they cease to ask, "Why am I not making any more than a living?"



OUR WINTER BIRDS IN THEIR RELATION TO AGRICULTURE.—I

By Vaughan MacCaughey, '08

The good farmer takes into strict account all of the factors that affect profitable agriculture. He will not only thoroughly understand the fundamental principles underlying the growing of plants and the raising of animals, but will also take cognizance of all other life on his farm.

It is very evident that the exceedingly complicated relationships existing between all forms of life, are of high importance to agriculture. Darwin's celebrated illustration of this law of "the interrelation of organisms," (as the scientist calls it), is well worthy of repetition. He shows that the formation of seed in red clover is due to cross-pollination by bumble bees; one of the principal enemies of bumblebees is field mice; the chief devourers of field mice (in England) are cats; cats are kept mostly by old maids; and so he concludes that, other factors being equal, the amount of red clover seed in any locality is in direct proportion to the number of old maids in the same vicinity.

Inasmuch as the birds are of the most important groups of animals affecting agriculture, (probably ranking next to insects), and as a great mass of definite information has been accumulated concerning them, they have been chosen for a brief consideration.

We confine ourselves to the winter birds because public attention has not been called very strongly to this phase of the economic importance of birds. It is not difficult to perceive the value of a cuckoo stripping a cherry tree of tent caterpillars, but few realize the good that the chickadee does in destroying the winter egg clusters of the same insect. A large per cent of our winter birds are permanent residents, staying in the same locality throughout the entire year, and thus having a period of economic importance greater than of migrating birds.

THE JOURNEYMAN FARMER.

By J. Demary, Sp.

It is frequently urged that the agricultural college does not provide the practical experience, which is absolutely necessary to successful farming. Granted that this is true, the question may be asked in return with equal force, does the farm give, in the majority of cases, the variety of work and observation paralleled by the so-called "book education?"

To return to the title of this article the definition of "journeyman" must be fully understood. Under the old apprenticeship system, a man served for seven year at his trade, and then started out with his kit of tools traveling from city to city learning those portions of his trade not obtainable in the place of apprenticeship.

The result of this proceeding was that his judgment became much more efficient, and the experience served to make him a better craftsman and all 'round worker. It is not possible with farming to carry on operations with the accuracy of a trade, but if a young man who intends to follow it as an occupation, should pursue for several years a similar plan of work, he would receive an equal amount of benefit, and a knowledge of men and methods far beyond that obtainable on the "old farm at Swanzeny."

A man engaged in carrying out this undertaking, if he brings to the work the strength and sobriety of purpose, which it requires, is capable of receiving the highest wages, and should be able to readily pass from one farm to another observing the best farm practice, and on a different footing, than the average "hobo" help. If this is combined with a judicious amount of study of the subjects, bearing upon the daily work, and the proper balance between theory and practice maintained, and this is a good definition of "common sense," there should be nothing to prevent him from becoming an excellent farmer, when he decides to locate permanently.

The Cornell Countryman

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DECEMBER, 1906

Winter Course Students

THE CORNELL COUNTRYMAN desires to extend a welcome to the Winter Course Students

who will come to Cornell this month. The COUNTRYMAN wishes to make these new students feel that this college is their college, that the students are their classmates, and that the COUNTRYMAN is their paper.

The state gives the short course students free tuition in the college. The faculty of the Agricultural College puts forth its best effort to secure for them the best and greatest amount of instruction that can be given in the limited amount of time in the course. The students, through the Agricultural Association, assist the new men to find suitable rooms and board and to make them acquainted with faculty and students. The whole college puts forth every effort to secure the greatest benefit for them.

All this entails duties upon the Winter course men which should not be neglected. They should make the most of the instruction, getting the greatest amount of practical benefit from it. They should try to obtain the instinct of progress, work, and en-

thusiasm that pervades the college life. They should bear their share of the student activities that are carried on in the College of Agriculture, attending the meetings of the Agricultural Association, the Assemblies and their own clubs. They should loyally support the CORNELL COUNTRYMAN, which is their paper.

A man who comes to Cornell even for a short time and does not support the college in its activities is not entitled to be a student in the college. He has no right to obstruct the campus and the college halls with his presence. Cornell is the place first of all for work, hard consistent work, the men who shirk are an obstruction to progress. Cornell is the place for loyalty, for enthusiasm and for helpfulness. The man who neglects any one of the three had better go back whence he came and learn there the wisdom which he will not gain here.

Get into things at once and be a college man if it is only for a few weeks.

Ignorance

In an address before the Civic Club, Nov. 8th, on "The Issues of the Recent Election," Professor Catterall speaking in disfavor of the voting machine, is quoted in the Cornell Daily Sun of Nov. 9th in part as follows:

"Professor Catterall said that he did not have much faith in the voting machines. He told how one of our professors went into the booth with intention to vote a straight Republican ticket, and he pulled the wrong lever and voted a Democratic ticket. Professor Catterall then made the inquiry, 'What do the ignorant farmers do when they get in the booth?'"

If correctly quoted, we think that Professor Catterall has, by such a

statement, done an injustice to his own intelligence as he has to that of the farmers. We know that the farmers are men of as great intelligence as the business men or professors. We think that Professor Catterall would know it too if he gave the matter a little thought.

The records of the farmers at the polls show that they use their ballot intelligently, conservatively, thoughtfully and impartially. On the great moral issues that come before the state the vote of the farmer has always been on the side of justice and morality. When the cities in a frenzied rage, demoralized and unthinking, rush after some new will-o'-the-wisp which is to reform the world in a fortnight, it is the farmer who by his intelligence saves the day from the new monomania.

We know little and care less about the merits of the voting machine which Professor Catterall discusses, but the farmer who uses a reaper, corn-planter and corn harvester is likely to make few mistakes in the pulling of a lever of a voting machine.

We object to the term "ignorant farmer" being applied to a class of men who have by their intelligence done so much for the state.

Were You Late?

The last Assembly was remarkable both for the excellence of the entertainment and for the large number of persons who came in late. It seems as if the habit of late attendance has been growing. The final culmination was reserved for the last Assembly when the reading of Dean Bailey was delayed and disturbed by the clattering of tardy students who seemed to feel that their arrival was

of sufficient importance to warrant the intrusion upon the exercises of the evening. We have noted that members of the faculty, who are many of them exceptionally busy, seldom miss an Assembly and never come in late. We have noted that many students make a common practice of lateness.

Tardiness is often said to be a mark of inefficiency. In this case it is also a mark of bad taste.

The New Index

There has been published an index to the first three volumes of the CORNELL COUNTRYMAN.

The index is in two parts; a complete index of authors arranged alphabetically with titles of articles and references, and a subject index of articles with authors and references. The index is printed uniformly with the Countryman so that those who so desire may bind it with their files of previous issues. The index will be sent to all subscribers whose requests for it are received before December 10th. No charge will be made for the index which will be mailed as a supplement to the January issue.

The January Countryman

The January issue will be devoted largely to rural engineering subjects which have been

attracting wider interest through the introduction in the Agricultural Colleges, of courses in Rural Engineering. Articles will appear on the "Need of Rural Engineers," by W. H. Beal of the United States Office of Experiment Stations; on "Farm Water Works" by Professor E. H. Barbour of the University of Nebraska. Other articles are expected on "Modern Barn Construction," "Road Making" and allied subjects.

GENERAL AGRICULTURAL NEWS

The Society for the Promotion of Agricultural Science held its Annual Meeting at Baton Rouge, La., on Nov. 13. The meeting was called at 9:30 A. M. and consisted of three sessions, the morning, afternoon and evening. The morning session was given over to the presentation of several important papers, the first written by Prof. T. F. Hunt of Cornell University on "The Importance of Nitrogen as Plant Food." Problems of agricultural education and questions of actual agricultural practice took up the rest of the forenoon.

The afternoon was given over to a symposium on experimental work. This was opened with a paper by Prof. Hunt on "What is Research." The evening meeting was taken up in the presentation of the president's—Dr. Henry Prentiss Armsby of the State College, Pa.—address. Dr. Armsby spoke at length upon the "Promotion of Agricultural Science."

* * *

The southern states are rapidly coming to the fore in the introduction of agricultural education into the high schools. Georgia at its last general assembly passed a law establishing eleven Congressional agricultural high schools as branches of the State College of Agriculture. These schools will be under the general supervision of the board of trustees of the University of Georgia. The sections where the schools are located donate the land, not less than 200 acres to each school, and the necessary equipment. The students are expected to preform all of the labor about the place for which they receive wages from the proceeds of the farm. The remainder of the maintenance funds are to come from equal shares of the inspection fees, collected by the State department of agriculture which now amount to about \$6,000 a year. The subjects pursued are those which will admit a boy to the freshman class of

the State College of Agriculture and comprise instruction in agriculture, the English branches, farm mechanics and related subjects.

Cecil county of Maryland will open an agricultural high school this fall at Calvert in the northern part of the county. Mr. H. O. Sampson of the United States Department has been selected as the superintendent and teacher of agriculture. The Legislature recently passed an act requiring that agriculture should be taught for at least one year during a child's connection with school.

Petersham, Mass., comes forward with a new high school which includes agriculture in the list of its courses. This department was equipped before any other in the school and has as its head Edwin H. Scott, a graduate of the Massachusetts Agricultural College.

Wisconsin already has two high schools for agriculture in operation in Dunn and Marathon counties and this year will add another in Marinette county. The building is already begun and it is expected that the work will follow the same lines as that of the other two schools.

St. Louis, Mich., has introduced a three-year agricultural course into the high school there. The work in agriculture will begin in the second high school year and extends through both terms of the second and third years. The topics taken up comprise: The soil, its origin, drainage and capillary action; plant-food, propagation, and diseases—orchard, garden and field,—farm animals, dairying, and gardening.

A series of experiments with tropical plants has been planned by the United States Department of Agriculture. For this purpose they have leased seven and one-half acres of land on Elliott's Key, Dad county, Florida, from Dr. John Gifford for ninety-nine years. Dr. Gifford has just completed a series of lectures on Tropical Pomology before the Horticultural students of Cornell.

Not only are the principals of high schools teaching agriculture in their grades but they are illustrating their work by practical applications. One of the foremost of these is Prof. Thorne of the Palmyra High School, Milwaukee, Wis., who carries on experiments with grains and vegetables on the school campus in order to demonstrate to the pupils the principles which he is teaching. The campus might almost be taken for an agricultural experiment station. Prof. Thorne is pushing the cause of Agricultural education in rural, grade and high schools alike. The *successful* farmer must be a *scientific* farmer who carries on his work with the same regard for business methods as men in any other lines of work.

CAMPUS NOTES

The College of Agriculture announces that Doctor H. J. Webber, who has been in charge of the Plant Breeding Plats of the United States Department of Agriculture, will come to Cornell University as Professor of Experimental Plant Biology. Doctor Webber will not teach undergraduates but will devote his time at first to the organization of a department of Plant Physiology, the term being considered in its broadest sense. The funds from which this new professorship is established are derived from those of the Federal Experiment Station.

The addition of Doctor Webber to the faculty of the college is an event of great import. Upon the breeding of plants Doctor Webber is probably the greatest authority in America if not in the world. His presence here as a member of the faculty should bring to Cornell an added reputation without taking into account any consideration of the valuable work along Plant Breeding lines which will doubtless be conducted by him. It is expected that Dr. Webber will be able to conclude his work with the Department of Agriculture so that he can enter the faculty of the College April 1 next.

Dr. Webber was born at Lansing,

Mich., in 1865; he entered the University of Nebraska and was graduated in 1889. The next year he received his M. S. A. at that institution, and in 1891 received the degree of Ph. D., at Washington University, St. Louis, Ill. During the years 1889 and 1890 he was instructor at the University of Nebraska and for the following two years was instructor at Washington University.

In 1893, Dr. Webber became associated with the United States Department of Agriculture and from 1893 to 1897 was Government Investigator of Orange Diseases in Florida. Since that time he has been in charge of the Plant Breeding Plats at Washington, D. C. In July, 1899, Dr. Webber was sent as representative of the Agricultural Department, to the International Conference on Hybridization and Cross Breeding, held in London.

Besides his educational and investigational work, Dr. Webber has written many papers and pamphlets on plant breeding, anatomy and diseases, a text book of Botany and other substantial works.

* * *

Considerable interest has been aroused in the Agricultural Colleges, by the presentation of twenty new scholarships, by Mr. J. Ogden Armour, of Chicago, head of the Armour Packing Co. Mr. Armour has given \$5,000, which will be annually awarded in scholarships of \$250 each, to those Agricultural Colleges making the best displays at the International Live Stock Exposition, held each year at Chicago.

The conditions under which the scholarships are to be awarded, beginning in 1907, are as follows:

One scholarship to be given to the college entering the team which makes the best showing in horse judging.

One scholarship to be given to the College entering the team which makes the best showing in cattle judging.

One scholarship to be given to the college entering the team of the best

showing in sheep judging.

One scholarship to be given to the college entering the team of the best showing in swine judging.

One scholarship to be given to the college entering the team of best showing in judging corn.

One scholarship to be given to the college entering the team of the best aggregate showing in all the events noted above.

One scholarship to be given to the college making the most instructive display and presentation of feeds and forage products and their composition, utility and value.

Thirteen scholarships to be awarded to colleges *pro rata* depending upon the amount of money won by them on stock exhibited by them, in the open classes of the International Exposition.

No college shall be awarded more than 40% of the whole—or 8 scholarships.

The college winning a scholarship shall award it to a student in that college, chosen by the faculty, whether or not he be upon one or more of the teams entered by the college. Needy students are to be given preference in the awarding of the scholarships.

* * *

The International Live Stock Exposition will be held, this year, the first week of December, at the Union Stock Yards, Chicago, Ill.

* * *

Dean Bailey attended the annual meeting of the Society for the Promotion of Agricultural Science at Baton Rouge, La., on Nov. 13. He left Ithaca on Nov. 7th and spent sometime inspecting the new orange industry in Louisiana.

* * *

The equipment of the Dairy Building is rapidly increasing and the consignments of apparatus which are arriving continually are being placed in position at once, so that the courses in Dairying will soon be under full headway. The conditions in and about the

buildings are being improved. Temporary board walks have been installed for the winter and the exciting but precarious necessity of leaping ditches on the way to classes has been eliminated.

* * *

The Animal Husbandry Department has lately made several purchases that have enlarged and greatly improved the former herds of University live stock.

* * *

The second Assembly of the year was held on Thursday evening, Nov. 1, the hostesses being Mesdames Craig, Cavanaugh, Troy, Mann and Ayers, who were assisted by Messrs. Baker, Bassett and Bingham. The Assembly was one of the most successful and enjoyable ever held, for the attendance was unusually large, Dean Bailey's reading was very interesting and the social part of the gathering fully up to the rest of the program.

* * *

Dr. True, Director of the Experiment Station work at Washington, visited the college on November 3 for the purpose of conferring with Professor Hunt. The conference was practically a meeting of a committee upon Methods of Teaching Agriculture, of which both Professor Hunt and Dr. True are members.

* * *

Adams Phillips, '01, B. S. A., who is Professor of Biology at the Fredonia State Normal and High School, is one of the men who are showing much interest in the introduction of elementary agriculture into the Elementary and High Schools. In his Biological teaching Professor Phillips makes use largely of agricultural material.

* * *

Professor Fippin of the Soils Department, who for the past month has been ill with typhoid fever, has been out of the hospital for the past two

weeks and will probably soon resume his work, the lectures of which have been carried on by Professor Lyon.

* * *

Dr. Alexius C. S. de Sigmond, Professor at the University of Budapest, Hungary, spent November 3 and 4 at the University, thus completing a six months trip in soil investigation. Dr. de Sigmond is now publishing the results of a very elaborate set of ex-



L. B. JUDSON

periments, designed to ascertain conditions governing the availability of phosphoric acid in the soil. The conclusions reached were that the availability depended largely upon the lime content of the soil. Besides making these investigations, Dr. de Sigmond has been studying American agricultural methods and especially methods of agricultural teaching. He has visited several other Agricultural Colleges, coming to Ithaca from the graduate school of agriculture at the University of Illinois.

The Poultry Department is now occupied with the erection of a new building of which the plans and details of cost, etc., are to be published in bulletin form in the near future. Already 91 regular students, including 21 in advanced courses, are ready to take possession of the building when completed.

* * *

A meeting of the directors of the Poultry Association resulted in the election of the following officers for the ensuing year: President, H. C. Pierce; Vice-President, L. B. Jackson; Superintendent of the Poultry Show, C. F. Boehler; Secretary and Treasurer, W. C. Knapp. The remaining directors are H. F. Prince, G. H. Moody and Miss C. Nixon. The Association donated \$5.00 to be given as a prize in the scoring competition, which will take place at the annual Poultry Show in January.

* * *

On the afternoon of Nov. 2, Dr. H. J. Webber who is in charge of the Breeding Plots of the Bureau of Plant Industry at Washington, met the Agronomy Seminary in a special session. After the lecture which Dr. Webber delivered before the University, in the morning, he gave a practical demonstration of the value of a cross between the Trefoliate orange of Japan and the ordinary sweet orange as an "ade." This latter was pronounced very palatable, though the orange itself was of a slightly bitter taste.

* * *

On Nov. 1 Mr. Pervis, editor of "Poultry" addressed the class in poultry husbandry. Similar addresses have been given by him to previous classes and will, it is hoped be continued to future classes.

* * * *

Professors Stone and Warren spent the week of Oct. 29 among the farmers in different parts of the state, fol-

lowing up the developments of co-operative experiments.

* * *

The Department of Nature Study is working up the subject matter for a syllabus of Nature Study investigation, which is to be issued by the State Department of Public Instruction.

* * *

Mr. Wilhelm Miller, editor of *Country Life in America* and *The Garden Magazine* visited the college on the week of Oct. 29. He furnished the main part of the program at the Lazy Club meeting on Nov. 5.

* * *

Owing to lack of funds the Junior Naturalist Department has been

ance to thousands of children next spring.

* * *

The Normal Institute meets this year at Geneva, during the last week of November and will visit the University at the close of the session. The members of this institute meet each year, here or at Geneva, in order to get the information in regard to agricultural investigations at first hand.

* * *

Extensive changes are to be made on the horticultural grounds very soon. The dwarf pear orchard will be removed and replaced with a variety of orchard material for use in class instruction. The grounds on the



NEW MODEL SCHOOLHOUSE AT THE NEW YORK STATE COLLEGE OF AGRICULTURE
AT CORNELL UNIVERSITY

obliged to limit its organization to 15,000 children. On Oct. 21, the number already registered had reached 12,000, which is four times as many as registered at the same time in any other year. The Department will probably be compelled to refuse its assist-

nance to thousands of children next spring.

* * *

Prof. L. B. Judson arrived here November 1, and will continue the course in sub-tropical pomology

which Dr. Gifford has been giving. Dr. Judson brings with him the collection of materials for the course.

* * *

Prof. W. A. Stocking has recently investigated cases of ropy milk occurring in the vicinity of Moravia, N. Y. This condition of the milk is due to the growth of a certain species of bacteria, and can be eliminated by the frequent and thorough sterilization of all milking utensils. At Prof. Stocking's recommendation, the farmers employed this remedy, and so far no further trouble has been reported.

* * *

Under the direction of the New York State Department of Education, Professor Warren is compiling a syllabus of exercises for laboratory work in elementary agriculture. This syllabus is for use in the high schools of the state, and takes the place of an outline for the study of agriculture which has already been issued.

* * *

A series of Women's Institutes under the direction of the New York State Department of Agriculture, F. E. Dawley, Supervisor, and the New York State College of Agriculture at Cornell University, was held in the following places:

- Akron, Erie County, Oct. 31-Nov. 1.
- Webster, Monroe County, Nov. 2-3.
- Hannibal, Oswego County, Nov. 5-6.
- Clifton Park, Saratoga County, Nov. 7-8.
- Rhinebeck, Dutchess County, Nov. 9-10.

These institutes are similar in character to those started in Canada six years ago, which have been very successfully carried on in that province. It is an initial effort in New York State and it is expected that they will be of so much value as to make them

a permanent feature of state agricultural work.

* * *

Miss Hartman, who comes from the State Agricultural College of Missouri, at Columbia, is assisting in the Museum of the Department of Entomology.

* * *

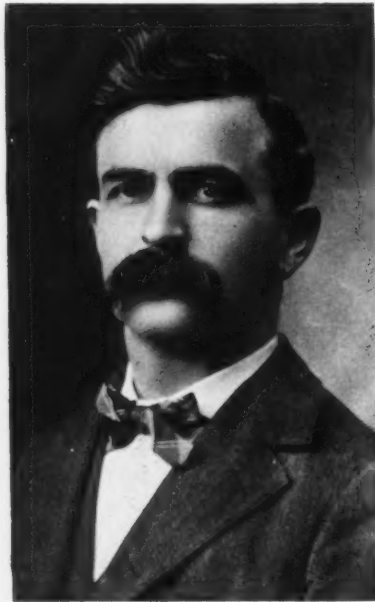
The Department of Agricultural Botany has added very materially to its courses this year. The Winter Course students will be offered two courses: One in Farm Botany open to all students in the Short Course, and required of those taking Horticulture, and the other in Plant Diseases, open only to those who have had "Farm Botany" or its equivalent. The laboratories will be held in the basement of the new Agricultural Building in the Dairy wing, and the lectures in the large dairy lecture room.

FORMER STUDENTS

'00, Ph. D.—Kary C. Davis completed a course in the Graduate Department of Cornell University in 1900, taking his work chiefly in Horticulture, Entomology and Botany. He is a native of Illinois, born at Decatur in 1867. His early life was chiefly spent on a farm in Kansas. He graduated from the following institutions: Junction City, Kansas, high school, 1886; Kansas State Agricultural College, with B. S. degree in 1891 and M. S. degree in 1894; the professional course of the Kansas State Normal School, 1892; Cornell University Ph. D. degree, 1900. He has had several years' experience as high school principal, and as science teacher in a state normal school in Minnesota, and was for a time in charge of the Horticultural Department of West Virginia University, and Secretary of the State Horticultural Society. While there he took an active part in the farmers' institutes

and won many warm friends throughout that state.

Mr. Davis has been head of the first County School of Agriculture in America at Menomonie, Wis., since it was created by the State of Wisconsin in 1902. There he has built up an institution which has attracted wide attention because of the pioneer character of the work done in the school and for the farmers of the vicinity.



K. C. DAVIS

The New York legislature at its last session made an appropriation of \$80,000 for the purpose of establishing a new State School of Agriculture at Canton, N. Y. The school is to be a department of St. Lawrence University at that place.

Dr. K. C. Davis, now head of the School of Agriculture at Menomonie, Wis., has been appointed as the dean of the new school, which is not to open until September, 1907.

'93, W.—Harry C. Bush, a member of the first winter course at the College of Agriculture, is farming on the

R. D. 1 at Auburn, N. Y. He has been deeply interested in organizing a farmers' "trust," a number of them having met last spring and formed an organization. Their greatest trouble seems to be the labor question.

'99, B. S. A.—Professor Walter Mulford now occupies the chair of Professor of Forestry at the University of Michigan. Professor Mulford has been head forester of Pennsylvania for the past few years.

'01, Sp.—Louis H. Moulton is running a strictly dairy farm at Cuba, N. Y., raising only that which can be turned into milk. He has Professor Bailey's idea of farming in mind, "Farm it for the fun there is in it, but be sure and have some money coming in, or the fun won't last."

'03, Sp.—F. E. Robertson has been superintendent of the Empire City Farms at Black Creek for the past two years. This fall Mr. Robertson entered at the Ithaca High School, preparatory to getting off entrance requirements and entering up as regular student next fall.

'04, Sp.—Announcements have been received of the marriage of Mr. Moseley Hale to Miss Florence May Grant of Orange, Mass., on October 24. Mr. Hale is now in charge of the extensive Hale Georgia Orchard Company's orchards. The Countryman extends "Mose" sincere and hearty congratulation.

'06, Sp.—Henry Jennings, who recently accepted a position as poultryman at the Maryland Experiment Station, has been called to the Bureau of Soils Department at Washington.

'04, Sp.—F. H. Cardozo is Horticulturist of the Experiment Station at Tuskegee, Ala.

'04, W. D.—Harry E. Richardson is inspector for the Richardson Beebe Co., of East Aurora, N. Y. The latter have thirty-five creamery and cheese stations in that vicinity.

'04, B. S. A.—H. G. Coville is the Horticulturist of the extensive Tully Farms at Tully, N. Y.

'04, W. D.—W. L. Markam is building up a good private trade in dairy and farm products at Jamestown, N. Y. He is also master of the local grange.

'05, W.—Arthur T. Snow has been Assistant Superintendent of Manual Training and Instructor in Gardening at Chappaqua Institute at Chappaqua, N. Y., a school under the direction of the Society of Friends.

'05, B. S. A.—Lester Griffith returned from Chautauqua, N. Y., where he has been the landscape gardener of the Chautauqua Village Improvement Association. They control the famous Chautauqua grounds at that place. Mr. Griffith gave lectures on landscape art and also superintended the planting. He now goes to Lynnbrook, Nassau County, N. Y. to open a landscape gardener's office.

'05, B. S. A.—S. M. Herrick has resigned from his position as Assistant in Agricultural Chemistry to accept the position of Assistant Chemist at the Virginia Experiment Station at Blacksburg.

'05, '06, W. D.—W. E. Thompson, E. V. Steenberg, Harvey Middaugh, and Frank Williams have been aiding Prof. Pearson in the installation of machinery in the new Dairy Building.

'05, W.—Claud E. Purdy is one of the superintendents on the Tarbell Farms at Smithville.

'05, D.—E. F. Totlin was instructor in butter making in the Short Dairy Course at the Penn. State College. After the close of the term he assumed the management of a group of creameries in that state.

'06, B. S. A.—A. S. Coelho is traveling in France studying agricultural conditions there. He will proceed to his home in Brazil.



"All through the night the subtle frost hath plied its mystic art
And in the day the mystic sun hath wrought true wonders."

—William Davis Gallagher

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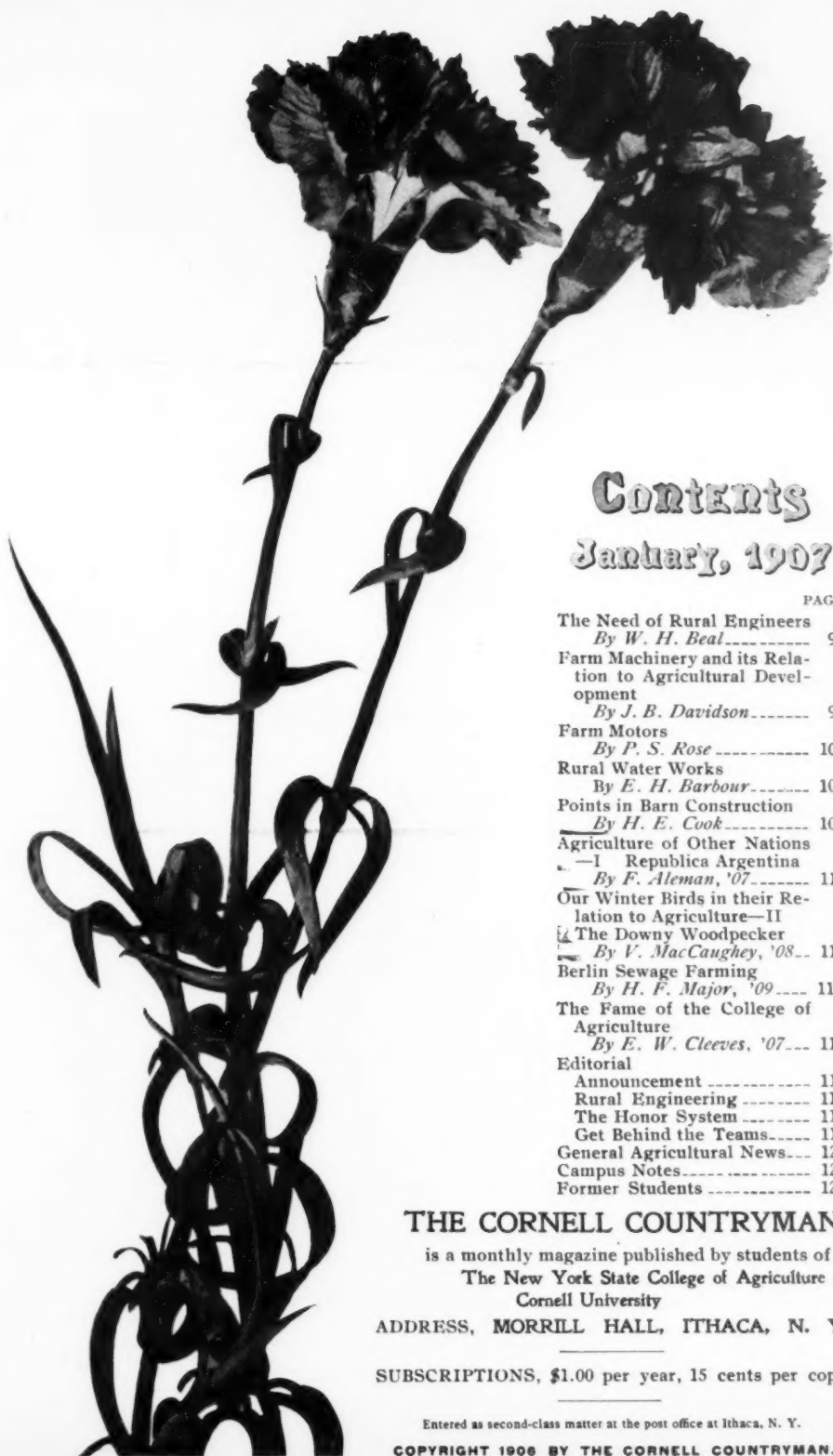
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